EPCOS

SAW Components

Data Sheet B3853

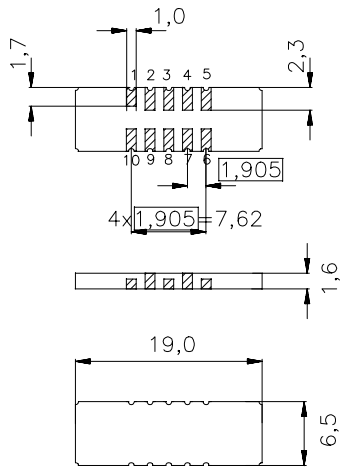
Ceramic package **DCC18**

Features

- Low-loss IF filter for CDMA base station
- Temperature stable
- Ceramic SMD package
- Unbalanced or balanced operation

Terminals

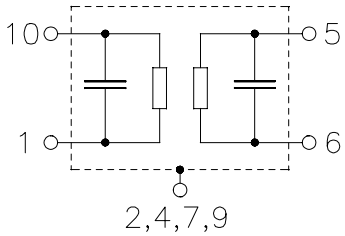
- Gold plated



Dimensions in mm, approx. weight 0,8 g

Pin configuration

1	Input or balanced input
10	Input ground or balanced input
6	Output or balanced output
5	Output ground or balanced output
3, 8	Ground
2, 4, 7, 9	Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B3853	B39141-B3853-U210	C61157-A7-A54	F61074-V8166-Z000

Electrostatic **S**ensitive **D**evice (**ESD**)

Maximum ratings

Operable temperature range	T	–40 / +85	˚C	
Storage temperature range	T_{stg}	–40 / +85	˚C	
DC voltage	V_{DC}	5	V	
Source power	P_s	10	dBm	

Characteristics

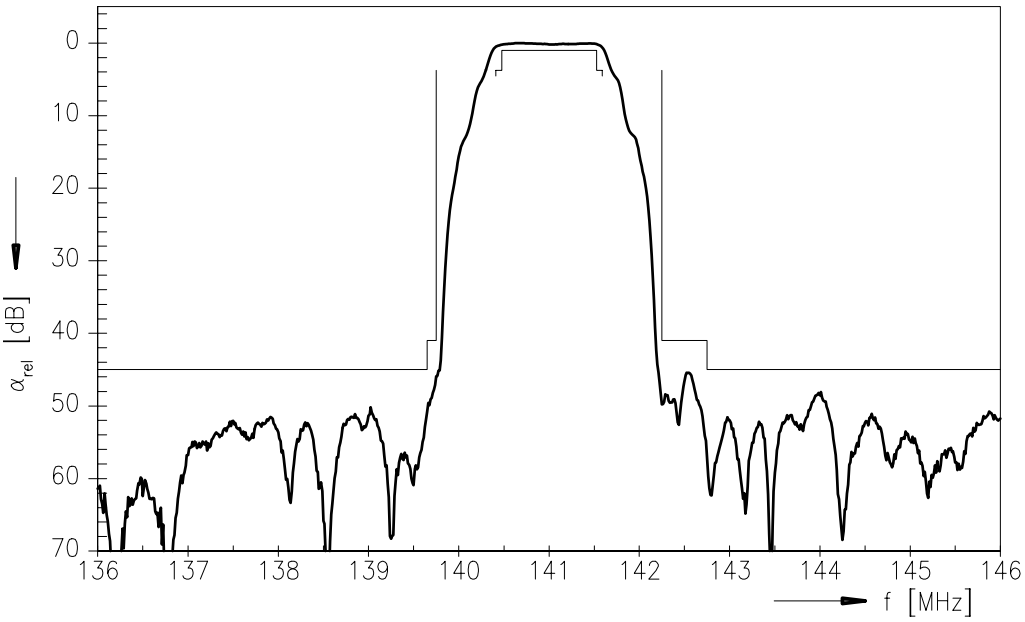
Operating temperature range: T = 0 to +85 °C
Terminating source impedance: Z_S = 50 Ω and external matching network
Terminating load impedance: Z_L = 50 Ω and external matching network

			min.	typ.	max.	
Nominal frequency		f_N	—	141,0	—	MHz
Minimum insertion attenuation		α_N	—	11,0	13,0	dB
3,75 dB bandwidth						
α_{rel} ≤ 3,75dB		$B_{3,75dB}$	1,18	1,32	—	MHz
Amplitude ripple (p-p)	$f_N \pm 525$ kHz	$\Delta\alpha$	—	0,2	1,0	dB
Phase Linearity (rms)	$f_N \pm 630$ kHz	$\Delta\varphi$	—	1,0	2,0	deg
Absolute group delay	@ f_N	τ	—	2,75	—	µs
Group delay ripple (p-p)	$f_N \pm 525$ kHz	$\Delta\tau$	—	100	300	ns
Relative attenuation (relative to α_N)		α_{rel}				
50 MHz ... 120 MHz			50	60	—	dB
120 MHz ... f_N – 1350 kHz			45	52	—	dB
f_N – 1350 kHz ... f_N – 1250 kHz			41	45	—	dB
f_N + 1250 kHz ... f_N + 1750 kHz			41	45	—	dB
f_N + 1750 kHz ... 175 MHz [1]			45	48	—	dB
175 MHz ... 500 MHz			60	70	—	dB
Return loss	$f_N \pm 525$ kHz		10	15	—	dB
3rd-order intercept point		*IP3*	40	45	—	dB
Temperature coefficient of frequency [2]		TC_f	—	–0,036	—	ppm/K²
Turnover temperature		T_0	—	42,5	—	°C

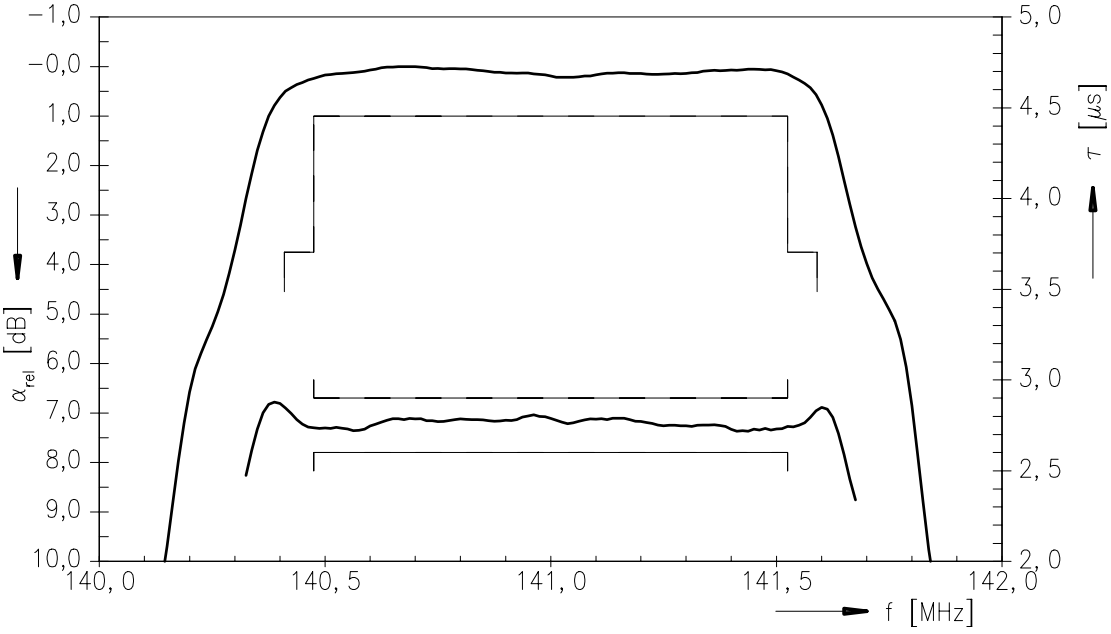
[1] Except for two peaks around 144 and 146 MHz with typically 45dB

[2] Temperature dependance of f_c: $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$

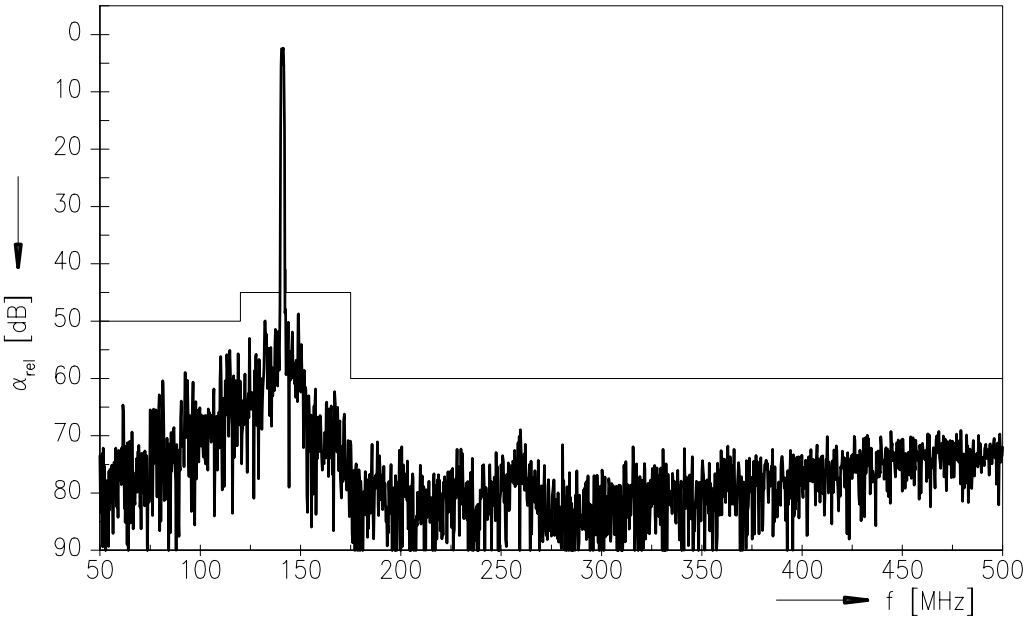
Normalized frequency response



Normalized frequency response (pass band)

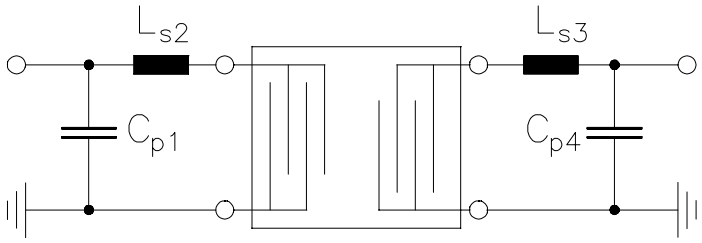


Normalized frequency response (wide band)



Matching network to 50 Ω

(Element values depend on PCB layout)



C_{p1} = 56 pF

L_{s2} = 68 nH // 2.2 pF

L_{s3} = 68 nH // 1.2 pF

C_{p4} = 56 pF

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P.O. Box 80 17 09, 81617 Munich, GERMANY

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